

What is claimed is:

1. A focused charged particle beam device, comprising a focused charged particle beam generating section, made up of a charged particle source, a focusing lens system for focusing a charged particle beam emitted from the charged particle source, and a blanking electrode for turning the charged particle beam ON or OFF, a deflection electrode for deflection scanning of the focused charged particle beam, a sample stage having drive means for adjusting beam irradiation position and angle, and a gas gun for spraying gas for deposition or assist etching, wherein the sample stage drive means comprises a mechanism capable of tilting in two axial directions, X and Y, and a mechanism capable of movement in three dimensions, X, Y and Z, to enable tilting in all directions.
2. The focused charged particle beam of claim 1, wherein a mechanism capable of movement in three dimensions, X, Y and Z is mounted below a mechanism capable of tilting in two axial directions, X and Y, and a focused ion beam is adopted as the focused charged particle beam, wherein by having a mechanism capable of setting a sample surface in a tilt angle range from perpendicular to a few degrees with respect to the beam, it is made possible to carry out processing of a slice accurately and perpendicularly in all directions for a pattern of a penetrating structure of an electron beam exposure mask.
3. The focused charged particle beam device of claim 1, comprising means for data storage of a processing correction angle α for a charged particle beam used, and means for controlling setting of the a sample tilt angle to $90^\circ + \alpha$ based on data α ,

capable of carrying out perpendicular processing of a slice in all directions for an electron beam exposure mask pattern having a penetrating structure.

4. The focused ion beam device of claim 1, provided with a function for spraying gas for assist etching of a mask material, or deposition gas, from a gas gun, adopting an electron beam as the focused charged particle beam device.